### TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE

# 2 S C 4 7 9 3

## **POWER AMPLIFIER APPLICATIONS**

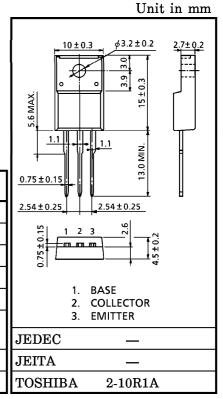
#### DRIVER STAGE AMPLIFIER APPLICATIONS

• High Transition Frequency: f<sub>T</sub>=100MHz(Typ.)

• Complementary to 2SA1837

## MAXIMUM RATINGS (Tc = 25°C)

| CHARACTERISTIC            |                    | SYMBOL             | RATING  | UNIT                 |  |
|---------------------------|--------------------|--------------------|---------|----------------------|--|
| Collector-Base Voltage    |                    | $v_{CBO}$          | 230     | V                    |  |
| Collector-Emitter Voltage |                    | $v_{CEO}$          | 230     | V                    |  |
| Emitter-Base Voltage      |                    | $v_{\mathrm{EBO}}$ | 5       | V                    |  |
| Collector Current         |                    | $I_{\mathbf{C}}$   | 1       | Α                    |  |
| Base Current              |                    | $I_{\mathbf{B}}$   | 0.1     | A                    |  |
| Collector Power           | $Ta = 25^{\circ}C$ | $P_{\mathbf{C}}$   | 2.0     | w                    |  |
| Dissipation               | $Tc = 25^{\circ}C$ | 10                 | 20      |                      |  |
| Junction Temperature      |                    | $T_{j}$            | 150     | °C                   |  |
| Storage Temperature Range |                    | $\mathrm{T_{stg}}$ | -55~150 | $^{\circ}\mathrm{C}$ |  |

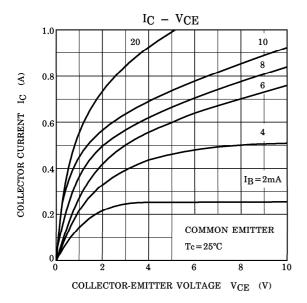


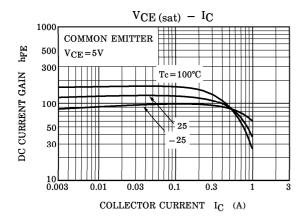
Weight: 1.7g (Typ.)

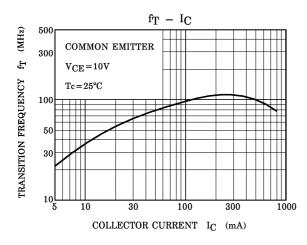
## ELECTRICAL CHARACTERISTICS (Tc = 25°C)

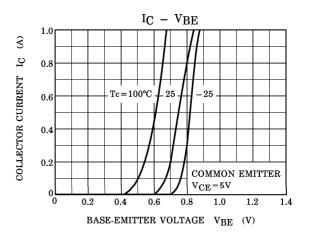
| CHARACTERISTIC                          | SYMBOL                | TEST CONDITION                              | MIN. | TYP. | MAX. | UNIT    |
|---|-----------------------|---|------|------|------|---------|
| Collector Cut-off Current               | $I_{CBO}$             | $V_{CB} = 230V, I_{E} = 0$                  | _    |      | 1.0  | $\mu$ A |
| Emitter Cut-off Current                 | $I_{ m EBO}$          | $V_{EB}=5V, I_{C}=0$                        | _    | _    | 1.0  | $\mu$ A |
| Collector-Emitter Breakdown<br>Voltage  | V (BR) CEO            | $I_{\rm C}$ =10mA, $I_{\rm B}$ =0           | 230  | _    | _    | V       |
| DC Current Gain                         | ${ m h_{FE}}$         | $V_{\rm CE}$ =5V, $I_{\rm C}$ =100mA        | 100  | _    | 320  |         |
| Collector-Emitter Saturation<br>Voltage | V <sub>CE</sub> (sat) | I <sub>C</sub> =500mA, I <sub>B</sub> =50mA | _    | _    | 1.5  | V       |
| Base-Emitter Voltage                    | $ m V_{BE}$           | $V_{\rm CE}$ =5V, $I_{\rm C}$ =500mA        | _    |      | 1.0  | V       |
| Transition Frequency                    | $ m f_{T}$            | $V_{CE} = 10V, I_{C} = 100 \text{mA}$       | _    | 100  | _    | MHz     |
| Collector Output Capacitance            | $C_{ob}$              | $V_{CB} = 10V, I_{E} = 0, f = 1MHz$         | _    | 20   | _    | pF      |

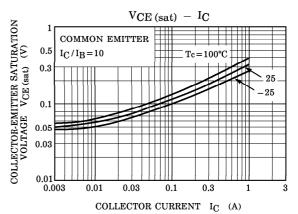
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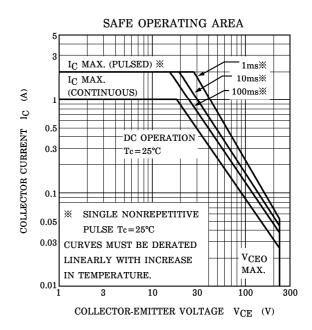












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